

Query Match	Score	DB	Length
Local Similarity	78.8%;	1204;	27;
Post-Local Similarity	99.98%;	Pred. No. 0.00e+00;	

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Matches 1205: Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Db 1 atgaacaactgtctgtctgcgcgcgtctgtcttccttgacatctccatctaaagtggaccacc 60
QY 46 ATGAAACAGTGTCTGTCTGCTCGCGCTGCTGTCTTGACATCTCCATTAACTGGACACC 105
Db 61 caggaacagttctctccaagtacatctcattatgacgaagaagaacctctctcgcgttg 120
QY 106 CAGGAAACGTTTCTCCAAAGTACCTTATTATGACGAAGAAACCTCTCTCATGACGTTTG 165
Db 121 ttgtacaacatgtctctctgtgtacctacctaacaacacactgtcaagcaagtggaaagac 180
QY 166 TGTGACAAATGTCTCTCTGTGTACTTAAACAAACACTGTACAGCAAGTGGAGAAC 225
Db 181 gtgtgcgccccctgtcccttgacacactactacacagacagctgtgcacacagtgagagt 240
QY 226 GTGTGCGCCCTTGCCCTGTGACCACTACTACACAGACAGCTGCGACACCACTGACGAGTGT 285
Db 241 ctatctgcagccccggtgtgcaaggagctcagtaagtcaggaagagagtgacatgcacc 300
QY 286 CTATACTGCAAGCCCGGTGTGCAAAGGAGCTCAGTACGTCAAGCAAGGAGTCAATCCGACC 345
Db 301 cacaaccgcgtgtgcgaatgcagaagaggcgctacactgagatagagtctctgtgaa 360
QY 346 CACAACCGCGTGTGTGCAATGCAGAGAGGCGCTACTTGTAGATAGAGTCTGCTTGAA 405
Db 361 catagagagctgcctccctctgtgatttgagatgtgcgaagctggaaccccaagacgaata 420
QY 406 CATAGGAGCTGCGCTCTCGGATTTGGATGTGCACAGCTGGAAGCCCAAGACGAATAATACA 465
Db 421 gtttgcagaagagtgccagatgtgttcttctcaatgagacgtcatcttaagacacctgt 480
QY 466 GTTTCAGAAAGATGTCCAGATGGGTTTCTTCTCAAAAGAGACGTCATCTAAAGACCCCTGT 525
Db 481 agaaacaacaacatgtcaatgtctctgtctccctgtacactcagaagaagaatgtgaca 540
QY 526 AGAAACACACAAATTCGATGTCTTGTGTCTCTCTCTACTCAGAAAGCAATGCAACA 585
Db 541 cacgacaacatattgtccggaacacagtgaaatcaactcaaaatgtgaaatagatgttacc 600
QY 586 CACGACACAACTATGTCTCCGAAACAGTGAATCAACTCAAAATGTGGAATAGATGTATACC 645
Db 601 ctgtgtgagagagcatctctcaggttgtgtctcctacaaagttaacgcttaactgtgct 660
QY 646 CTGTGTAGAGAGCATCTTCAGGTTTGCTGTCTCAAAAGTTTACGCTTACTGCTT 705
Db 661 agtctctgttagacaattgtcctgtgcaccaaagttaaagcagagagtgtagagagata 720
QY 706 AGTGTCTGTAGACAATTTGCTCTGCGACCAAGTAAACGACAGAGTGTAGAGAGATA 765
Db 721 aaacggcaacacagctcacagaacagacttccagctgtcgtgaagtatgaaacataca 780
QY 766 AAACGGCAACACAGCTCACAAAGAACAGACTTCCAGCTCTGAAGTATGAAACATCA 825
Db 781 aacaaagaccaaagatatagtcaagaagatcatccaagatattacctctgttgaacaagc 840
QY 826 AACAAAGACCAAGATATATAGTCAAGAAAGATATCAACAAATTTACCTGTGAAACAGC 885
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Db 901 agcttaccggaagaaagaaagtggagcagaagacatgtgaaanaaaacaataaaggatcaaa 960
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Db 1021 accttgaagggtctaattgcacgacactaaagcactcaagaacgttaccacttcccaaaact 1080
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QY 1186 TATCAGAAATTTATTTTATGAAATGATAGTAAACAGGTCAATCAGTAAATAATAGCTGC 1245
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QY 1246 TTATAA 1251

RESULT 2
ID T33165 standard; DNA: 1206 BP.
AC T33165;
DT 22-APR-1997 (first entry)
DE Mutated OCIF, OCIF-C23S, coding sequence.
KW Osteoclastogenesis Inhibitory Factor; OCIF; heparin; bone resorption;
OS Osteoporosis; ss.
FH Key Location/Qualifiers
FT sig_peptide 1..63
FT /tag- a
FT mat_peptide 64..1203
FT /tag- b
FT /product- OCIF-C23S
PN W09626217-A1.
PD 29-FEB-1996
PF 20-FEB-1996; J00374.
PR 20-FEB-1995; JP-054977.
PR 21-JUL-1995; JP-207508.
PA (SNOW) SNOW BRAND MILK PROD CO LTD.
PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;
PI Nakagawa N, Shima K, Tsuda E, Ueda M, Yano K, Yasuda H;
DR WPI:96-402320/40.
DR P-PSDB: R39935.
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful
PT for bone resorption control, esp. treatment of osteoporosis
PS Claim 39; Page 136-137; 183pp; Japanese.
CC This sequence encodes a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence encodes OCIF-C23S in which the 23rd Cys residue in the mature
CC OCIF protein is substituted by Ser. The OCIF of the invention has a
CC molecular weight by SDS-PAGE of 60 kD under reducing conditions and
CC 120 kD under non-reducing conditions. The protein is adsorbed onto
CC cation-exchangers or heparin and its activity is lowered after 10 mins
CC at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90
CC deg.C. OCIF is useful in the control of bone resorption and therefore
CC in the treatment and prevention of disorders of bone resorption, e.g.
CC osteoporosis.
SQ Sequence 1206 BP; 389 A; 285 C; 268 G; 264 T;

Query Match 78.6%; Score 1200; DB 27; Length 1206;
Best Local Similarity 99.8%; Pred. No. 0.00e+00;
Matches 1205: Conservative 0; Mismatches 3; Indels 0; Gaps 0;
Db 1 atgaacaactgtctgtctgcgcgcgtctgttcttgacatctccatctaaagtggaccacc 60
QY 46 ATGAAACAGTGTCTGTCTGCTCGCGCTGCTGTCTTGACATCTCCATTAACTGGACACC 105
Db 61 caggaacagttctctccaagtacatctcattatgacgaagaagaacctctctcgcgttg 120
QY 106 CAGGAAACGTTTCTCCAAAGTACCTTATTATGACGAAGAAACCTCTCTCATGACGTTTG 165
Db 121 ttgtacaatgtctctctgtgtacctacctaacaacacactgtcaagcaagtggaaagac 180
QY 166 TGTGACAAATGTCTCTCTGTGTACTTAAACAAACACTGTACAGCAAGTGGAGAAC 225
Db 181 gtgtgcgccccctgtcccttgacacactactacacagacagctgtgcacacagtgagagt 240
QY 226 GTGTGCGCCCTTGCCCTGTGACCACTACTACACAGACAGCTGCGACACCACTGACGAGTGT 285
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 Db 361 catagagctgcccctctgtgatttgaatgtgcaagctggaaccccgagacgaatata 420  
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 QY 406 CATAGGAGTGCCTCTCTGATTGGATGGTGCAAGCTGGAACCCGAGCCGAATATCA 465  
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 QY 466 GTTTCAGAAAGATGTCAGATGGGTTCTTCTCAAAATGAGAGTCACTTAAGACCCCTGT 525  
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 QY 526 AGAAACACACAAATTGCAATGTCTTGGTCTCTGCTACTCAGAAAGGAATGCACACA 585  
 Db 541 caagacacacataltgttcocggaacagtgaaatcaactcaaaaatgtggaatagatgtacc 600  
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 QY 586 CACGACACATATGTTCCGGAACAGTGAATCAACTCAAAATGTGGAATAGATGTTACC 645  
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 QY 646 CTGTGTGAGGAGGCAATCTTCAAGTTGCTTCTCAAAAGTTTACGCTTACTGCTT 705  
 Db 661 aggtctctgttagaacaattgtcctgctgacccaagtgaaagcagagagtgtagagagata 720  
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 QY 706 AGTGTCTGTGATACATTTGCTGCGACCAAAAGTAACCAAGAGATGTAGAGAGATA 765  
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 QY 766 AAACGGCACACAGCTCACAAGAAACAGACTTTCAGCTGCTGAAGTATGGAACATCA 825  
 Db 781 aaaaagacacaaatagataagcaagaagatcatccaagatttgaacctgtgaaaaagc 840  
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 QY 826 AACAAACACCAATATATGTCAGAAAGATCATCCAAAGATTTGACCTCTGTGAACACGC 885  
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 Db 961 cccagtgacacagatcctgaaagctgtcagatttgtgcgaaataaaaaatggcgaccaaagc 1020  
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 QY 1006 CCCAGTACACAGATCCCGAAGCTGCTAGTTTGTGGGAATTAATAATGGCGAACCAAGAC 1065  
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 Db 1081 gtcaactcagagctcaaaagaaagacatcaggcttccctcacagcgttcaacaatgtcaaatg 1140  
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 QY 1126 GTCACTCAGAGTCAAGAAAGAACCATCAGTCTCTTCAAGCTTCAAAATGTAACAAATTG 1185  
 Db 1141 tatcagaagttaatttttaagaagaatagatagtaaccaggttccaatcagtaaaaaataagcagc 1200  
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 QY 1186 TATCAGAAAGTATTTTATAGAAATGATAGTAAACACAGGTCCAAATCAGTAAATAAAGCTGC 1245  
 Db 1201 titataa 1206  
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 QY 1246 TTATATA 1251  
 RESULT 3  
 ID T33164 standard: DNA; 1206 BP.  
 AC T33164;

DT 22-APR-1997 (first entry)  
 DE Mutated OCIF, OCIF-C22S, coding sequence.  
 KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
 KW osteoporosis; ss.  
 OS Synthetic.  
 FH Key  
 FT sig peptide 1..63 Location/Qualifiers  
 FT /\*tag\_a 64..1203  
 FT /\*tag\_b  
 FT /\*product= OCIF-C22S  
 PN W09626217-A1.  
 PD 29-AUG-1996.  
 PF 20-FEB-1996; J00374.  
 PR 20-FEB-1995; JP-054977.  
 PR 21-JUL-1995; JP-207508.  
 PA (SNOW) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 DR WPI:96-402320/40.  
 DR P-PSDB: R99934.  
 PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 PT for bone resorption control, esp. treatment of osteoporosis  
 PS Claim 36; Page 135-136; 183pp; Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-C22S in which the 22nd Cys residue in the mature  
 CC OCIF protein is substituted by Ser. The OCIF of the invention has a  
 CC molecular weight by SDS-PAGE of 60 kD under reducing conditions and  
 CC 120 kD under non-reducing conditions. The protein is adsorbed onto  
 CC cation-exchangers or heparin and its activity is lowered after 10 mins  
 CC at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90  
 CC deg.C. OCIF is useful in the control of bone resorption and therefore  
 CC in the treatment and prevention of disorders of bone resorption, e.g.  
 CC osteoporosis.  
 SQ Sequence 1206 BP; 389 A; 285 C; 268 G; 264 T;

Query Match 78.6%; Score 1200; DB 27; Length 1206;  
 Best Local Similarity 99.8%; Pred. No. 0.00e+00;  
 Matches 1203; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Db 1 atgaacaaattgtgtgcgcgcgcgcgtgttctggaacatccatgaagtcgacc 60  
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 QY 46 ATGAACAATTTGCTGTGCGCGCCGCTCGTGTTCGGAATTCATTAGTGACACAC 105  
 Db 61 caggaaacgttctctcacaagtaaccttcatatgaacgaagaaacctctcatagctgtg 120  
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 Db 121 tgtgaacaaatgtccctctctgttaccttaacaaacacactgtacagcaagtgtgaagacc 180  
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 QY 166 TGTGAACAATTTGCTCTCTGTAACCTTAACCAACACTGTGACAGCAAGTGAAGAC 225  
 Db 181 gtgtgccccttgcctcctacactactacacagacagctgtgcacacagtgtaagagtg 240  
 |||||  
 QY 226 GTGTGCGCCCTTGGCCCTTACCACTACTACACAGAGCTGGCACACCGTACGATG 285  
 Db 241 ctatactgacgcccgtgtgcaagagctgcagtaacgtcaaacagagagtgcaatcgacc 300  
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 QY 286 CTATACTGAGCCCGCTGTGCAAGAGCTGCAAGTACGTAACGACAGAGTGCATGCAAC 345  
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 QY 346 CACAACCGGCTGTGCAAAAGCAAGAGGCGCTACCTTGAGATGAGTTCGCTTGA 405  
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 QY 406 CATAGGAGTGCCTCTCTGATTGGAGTGTGCAAGCTGGAAACCCCAAGGGAATATCA 465  
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2y 586 CACGACACATATATGTTCCGGAACAGTGAATCAATCAAAAATGTGGAATAGATGTACC 645
   |||||||
Db 601 ctgtgtgtgagggagcattcttcaggttctgtcttctctacaagaatttaagccctaaccgtgtc 660
   |||||||
2y 646 CTGTGTGAGGAGGCAATTTCTTCAAGTTTCTCTGTTCTCTCAAAAAGTTTACCCTTAACGCGCTT 705
   |||||||
Db 661 agtgtctgtgtgagacaatttcgtctgtccgccaagaagttaacgcgagagatgttgaagaagata 720
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2y 706 AGTGTCTTGTGTAGCAATTTTGCTCTGCAACCAAGTAACGCAAGAGATGTGAGAGAGATA 765
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Db 721 aaacgycacacacagctcacaagaagaagacattccagctgtctgtgaattatgtgaacatcaa 780
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2y 766 AAACGGCAACACAGCTCACAAAGAACAGACTTCCAGCTGTGTAAGTTATGGAACATCAA 825
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Db 781 aacaaagcccaagatattgtcaagaagaatcatccaaagatatgtaccttctgtgaaacagc 840
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2y 826 AACAAAGCCAAAGATATAGTCAAGAAAGATCAATCCAAAGATTTGACCTCTGTGAAAACAGC 885
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2y 886 GTGCAGCGGCAATTTGGACATGCTACTAAGCTTCAAGCTTCAAGCTTCTGATGTGAA 945
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2y 946 AGCTTACCGGGAAGAAAGTGGAGCAGAAAGACATTTGAAAAACATTAAGGCATGCAAA 1005
   |||||||
Db 961 cccagtgaccagatctcctaactgtctcagttgtgtgagaaataaagggcgagcaaaac 1020
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2y 1006 CCCAGTGAACAGATCTTAAGCTGTCTAGTTGTGGCAATTAATAAATGGGACCAAGAC 1065
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Db 1021 acctgaagggagcctaactgcaagcactaaagcactcaagaagccttaccacttcccaaaact 1080
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2y 1066 ACCTTGAAGGGCCTATATGACGCACTAAAGCACTAAAGAGCTATACACTTTCCCAAACT 1125
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2y 1246 TTATTA 1251

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PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;
PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;
DR WPI: 96-402320/40.
DR P-PSDB: R99932.
PI DNA encoding osteoclastogenesis inhibitory factor protein - useful
PI for bone resorption control, esp. treatment of osteoporosis
PS Claim 30. Page 133-134; 183pp; Japanese.
CC This sequence encodes a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence encodes OCIF-C205 in which the 20th Cys residue in the mature
CC OCIF protein is substituted by Ser. The OCIF of the invention has a
CC molecular weight by SDS-PAGE of 60 kD under reducing conditions and
CC 120 kD under non-reducing conditions. The protein is adsorbed onto
CC cation-exchangers or heparin and its activity is lowered after 10 mins
CC at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90
CC deg.C. OCIF is useful in the control of bone resorption and therefore
CC in the treatment and prevention of disorders of bone resorption, e.g.
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   |||||||
Qy 46 ATGAAACAGTTGCTGTGCTCTCGCGCTGTGTTCTGTGACATCTTCATTAAGTGACCACC 105
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Db 61 caggaaacggttccctccaaagatcctcatatgacgaagaacaccttccacagctgtgtg 120
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Db 541 cagcacaacataatgttccggaagaacagtgtaatacctaacaataatgtggaatagatgtacc 600
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   |||||||
Qy 646 CTGTGTGAGGAGGCAATTTCTTCAAGTTTCTCTGTTCTCTCAAAAAGTTTACCCTTAACGCGCTT 705
   |||||||
Db 661 agtgtctgtgtgagacaatttgcctgtgcaaccaagttaaagcagagagtgtagagagata 720
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Qy 706 AGTGTCTTGTGTAGCAATTTTGCTCTGCAACCAAGTAACGCAAGAGATGTGAGAGAGATA 765
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Db 721 aaacgycacacacagctcacaagaagaagacattccagctgtctgtgaattatgtgaacatcaa 780

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OY 826 AACAAAGACCAAGATATAGTCAAGAAAGATCATCCAAGATATGACCTCTGGGAAACAGC 885
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OY 886 GTGCAGCGGCAGATTGGACATGCTTAACCTCACTTCGAGACCTTCGTAGCTGTGATGAA 945
Db 901 agcttacggggaagaagaagctgagacagaagaacatctgaaaaaacaataaagcgatgcaaa 960
OY 946 AGCTTACCGGGAAGAAAGTGGGAGCAGAAAGCATTTGAAAAACATTAAGGCATGCAAA 1005
Db 961 cccagtgacacagatccctgaagctgctcagttgtgtgcgaaataaaatgycgacccaagac 1020
OY 1006 CCCAGTGACCAAGATCCTGAAGCTGCTCAAGTTGTGGCGAATTAATAATGGGACCAAGAC 1065
Db 1021 accctggaagggcctatctgacgacactaaagacactaaagaagctaccacttcccaaaact 1080
OY 1066 ACCTTGAAGGGCCTATATCACCCACTTAAGCCTCAAGACCTACACTTCCCAAACT 1125
Db 1081 gtcaactcagagctcgaagaagacatacagagttccttcacagcttcacaaatgtacaatgt 1140
OY 1126 GTCACTCAGAGTCTTAAGAAAGACATCAGTTCCTTCACAGCTTACAAATGTACAAATTG 1185
Db 1141 taccgaagttattttttagaataatgataagtaaacagagtcacatcagtaaaaaataagctgc 1200
OY 1186 TATCAGAGTTATTTTGTGAATATGATAGTAAACAGTCAATCAGTAAATAATAGCTGC 1245
Db 1201 ttataa 1206
OY 1246 TTATTA 1251

RESULT 5
ID T33161 standard; DNA: 1206 BP.
AC T33161:
DT 22-APR-1997 (first entry)
KW Mutated OCIF, OCIF-C19S, coding sequence.
KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
OS Osteoporosis; ss.
FH Key Location/Qualifiers
FT sig_peptide 1..63
FT mat_peptide 64..1203
FT /tag- a
FT /tag- b
FT /product- OCIF-C19S
PN MO9626217-A1.
PD 29-AUG-1996.
PE 20-FEB-1996: J00374.
PR 20-FEB-1995: JP-054977.
PR 21-JUL-1995: JP-207508.
PA (SNOW) SNOW BRAND MILK PROD CO LTD.
PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;
PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;
PI WPI: 96-402320/40.
DR P-PSDB: P89931.
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful
PT for bone resorption control, esp. treatment of osteoporosis
PS Claim 27: Page 132; 183pp; Japanese.
CC This sequence encodes a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence encodes OCIF-C19S in which the 19th Cys residue in the mature
CC OCIF protein is substituted by Ser. The OCIF of the invention has a
CC molecular weight by SDS-PAGE of 60 kD under reducing conditions and
CC 120 kD under non-reducing conditions. The protein is adsorbed onto
CC cation-exchangers or heparin and its activity is lowered after 10 mins
CC at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90
CC deg.C. OCIF is useful in the control of bone resorption and therefore
CC in the treatment and prevention of disorders of bone resorption, e.g.

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CC osteoporosis.
SQ Sequence 1206 BP: 389 A: 283 C: 270 G: 264 T:
Query Match 78.6%; Score 1200; DB 27; Length 1206;
Best Local Similarity 99.8%; Pred. No. 0.00e+00;
Matches 1203; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
Db 1 atgaacaactgtctgtctgcgcgtctgtgttctctgacatctccatlaagtgaccacc 60
OY 46 ATGAACAAGTGTGCTGTCTGCTGGCCCTGTTTCTTGACATCTTCATTAAAGTGAGCCACC 105
Db 61 caggaaacgcttctcccaaaagtacctcatatgacgaagaagaaccttccagctgttg 120
OY 106 CAGGAACGCTTCTCCAAAGTACTCTTATATGACGAAGAAACCTCTCATACAGCTGTG 165
Db 121 tgtgcaaatgtccctctctgtgtaccttaacctaacaacactgtacaagaagtgtgaagacc 180
OY 166 TGTGCAAAATGTCTCTCTGTGACTACTTAACAAACACATGTAACGCAAAATGGAAGACC 225
Db 181 gtgtgagccctctgcccctgacactactacaagacagctgtgcaaccagtgacagatgt 240
OY 226 GTGTGCCCCCTTCCCTGACACTACTACACAGACAGCTGGCACACACTGACGAGTGT 285
Db 241 ctatactcagaccccggtgtcagaagctgcagtagctcagaagaggtgcaatctgcagc 300
OY 286 CTATACTGCAGCCCGCGTGTGCMAGAGCTGCGTCAAGCGAGAGTCAATCGCACCC 345
Db 301 cacacacgcgtgtgtcgaatgcagaagagggcgtacccttgagataagatctctgtgaa 360
OY 346 CACACACGCGTGTGCGAATGCAGAGAGGGCGGTACTTGAGATAGAGTCTCTGTTGAA 405
Db 361 catagagctgcccctctctgtgatttgagtggtgcagctgtgaaacccagagcgaaatata 420
OY 406 CATAGGAGCTGCCCTCTCGATTGCGAGTGTGCAAGCTGGAACCCGACGACGAATAACA 465
Db 421 gttgcagaagatgtccagatgggtcttctcaaatgagagtcataagaaacctgtg 480
OY 466 GTTGCAAAAGATGTCCAGATGGGTCTTCTCAATGAGAGCTCATTAAGCACCTGTG 525
Db 481 agaaacaacacaatctgcaatgtctctgtctcctgtcctaactcagaagaagaatgacaca 540
OY 526 AGAAACACACAAATTCAGAGTCTTGTGCTCTCTGCTACTCGAAGAGAAATGCACACA 585
Db 541 caagcaacacatattgtccggaagaacagtgaatcaactcaaaaaagtgtgaatagatgtacc 600
OY 586 CACGACAAACATATGTCTCGGAACAGTGAATCAACCTCAAAATGTGGAATATGATGTACC 645
Db 601 ctgtgtgagagagcattcttcaaggttgcgtgtctcctcaagaagtttaagcctaactgtct 660
OY 646 CTGTGTAGAGAGGACATTCTTCAAGTTGCTGTTCTTCAAAAGTTTACGCTTAACGTGCTT 705
Db 661 agtctctgtgagacaaattgcccctgacccaagaagttaagcgagagtgtagagagata 720
OY 706 AGTCTCTTGTGAGCAATTTGCTCGGCACCAAGATAACCAAGAGATGTAGAGAGGATA 765
Db 721 aaacggaacacagctcacagaacagacttccagctgtcgtgaagtgtatggaacacaa 780
OY 766 AAACGGCAACACAGCTCAACAAGACAGACTTTCAGCTGTGAAGTTATGAAATCAATCAA 825
Db 781 aacaaagaaccaagtatagtcagaagaalcatccaagatatattgacctctgtgaaacagc 840
OY 826 AACAAAGACCAAGATATAGTCAAGAAAGATCATCCAAGATATGACCTCTGGGAAACAGC 885
Db 841 gtgcagcgacacatctgagacatgctaacctcaccttcgagcagcttcgttagcttgatgaa 900
OY 886 GTGCAGCGGCAGATTGGACATGCTTAACCTCACTTCGAGACCTTCGTAGCTGTGATGAA 945
Db 901 agcttacggggaagaagaagctgagacagaagaacatctgaaaaaacaataaagcgatgcaaa 960
OY 946 AGCTTACCGGGAAGAAAGTGGGAGCAGAAAGCATTTGAAAAACATTAAGGCATGCAAA 1005
Db 961 cccagtgacacagatccctggaagctgtctcagttgtgtgcgaaataaaatgycgacccaagc 1020

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QY 1006 CCAGTGCACAGATCCTGAAGCTGCTCAGTTGTGGCGATATAAAAAATGGCGACACAGAC 1065

Db 1021 acctgaagaggccctaatagcagcactaaagcactcaagaagctaccactttcccaaaact 1080

QY 1066 ACCTTTAAAGGGCTATATGACGACCTAAAGCAGCTCAAAAGCGTACACACTTTCCTCAAAACT 1125

Db 1081 gtcaactcagagcttaagaagaccatcaggttcccttcacagcttcacaaatgtacaactg 1140

QY 1126 gtacactcagagctttaaagaaagacatcaggttcccttcacagcttcacaaatgtacaactg 1185

Db 1141 tatcagaagttatctttaaagaatgtaggtaaccaggttcacaaatgtaaaataagctgc 1200

QY 1186 TATCAGAAGTTATTTTAAAGAAATGATAGTAACCAAGTCCAACTCACTAAATAATAGCTGC 1245

Db 1201 ttataa 1206

QY 1246 TTATAA 1251

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RESULT 6

T33163 standard; DNA; 1206 BP.

T33163:

UT 22-APR-1997 (first entry)

DE Mutated OCIF, OCIF-C21S, coding sequence.

KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption; osteoporosis; ss.

OS Synthetic.

FT Key

FT sig\_peptide Location/Qualifiers

FT /tag\_a 1..63

FT mat\_peptide 64..1203

FT /tag\_b

FT /product= OCIF-C21S

PN WO9626217-81.

PD 29-AUG-1996.

PE 20-FEB-1996: J00374.

PR 20-FEB-1995: JP-054977.

PR 21-JUL-1995: JP-207508.

PA (SNOW) SNOW BRAND MILK PROD CO LTD.

PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;

PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;

PI WPI: 96-40320/40.

DR P-PDB: R99933.

PT DNA encoding osteoclastogenesis inhibitory factor protein - useful for bone resorption control, esp. treatment of osteoporosis

PS Claim 33; Page 134-135; 183pp; Japanese.

CC This sequence encodes a mutated version of the full length osteoclastogenesis inhibitory factor (OCIF) of the invention. This sequence encodes OCIF-C21S in which the 21st Cys residue in the mature OCIF protein is substituted by Ser. The OCIF of the invention has a molecular weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-reducing conditions. The protein is adsorbed onto cation-exchangers or heparin and its activity is lowered after 10 mins at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful in the control of bone resorption and therefore in the treatment and prevention of disorders of bone resorption, e.g. osteoporosis.

CC Sequence 1206 BP; 389 A; 286 C; 267 G; 264 T;

QY 166 TGTGCAATGTGCTCCTGTAAGTCTTCTTAAACAGACTGTACAGCAAGTGGAGACC 225

Db 181 gtgtgagcccttgccttgacactactacacagacagctgagcacaccactgagagtg 240

QY 226 GTGTGGCGCCCTTGCCCTGACCTACTACACAGACAGCTGGCCACACAGTACGAGTGT 285

Db 241 ctatactcagacccctgtgtgaagaagctgacagtagtcaagcagaggtgcaatcgacc 300

QY 286 CTATACCTCAGACCCCGTGTGCAAGAGCTGCATGCTCAAGCAGGAGTGTCAATCGACC 345

Db 301 cacaacccggtgtgcgaatgcagaagagggcgctacacctgagatagatgttcgtgaaa 360

QY 346 CACACACCGCGTGTGGAATGCAAGAGAGGGCGCTACCTTGAGATAGAGTTGCTGTTAAA 405

Db 361 cataagagctgcctctctgagatgtgagtgtagtgcgaagctggaaccccaagagcaataca 420

QY 406 CATAGGAGCTGCCCTCCTGGATTGGAGTGGTGCACCTGGACCCAGCGCAAAATCA 465

Db 421 gttgcaaaagatgccagatgggtcttctcaaatgagcgtcatctaagcaccctgtc 480

QY 466 GTTGCATAAGATGTCAGATGGGTTCTTCAATAGAGAGCTCATGTAAAGCACCCCTGT 525

Db 481 agaaacacacacaaattgcagtgcttctgtctcctgtaactcagaagaagaaatgcaca 540

QY 526 AGAAACACACAAATTGCGAGTGTCTTGCTCTCCTGCTAAGTCAAGAAAGCAACA 585

Db 541 cagcaacaacataatgtccgcgaagaacagtgatcaactcaaaaaatgtggaatagatgtacc 600

QY 586 CACGCAACATATGTTCGGAAACAGTGAATCAACTCAAAATGTGAAATAGATGTACC 645

Db 601 ctgtgtgagagagcatcttcaggttgcgtgtctcctaagaagtttaagcccaatgctc 660

QY 646 CTGTGTGAGAGCATCTTCAAGTTGCTGTCTTCAAAATGTTAGCCCTAAGTGTCTT 705

Db 661 agtctctgtgtagacaatttgcctgcgcacaaagtaaacgcagagagtgtagaagagata 720

QY 706 AGTGTCTGTGTAAGCAATTTGCTGCGACCAAAATTAACGAGAGATGTAGAGAGATA 765

Db 721 aaagcgcaacacagctcaagaagaagacttccagctgtcgtgaagtaatggaacatcaa 780

QY 766 AAACGGCACACACTCTCAAGAAACAGACTTTCACGCTGTGGAAGTATGGAACATCAA 825

Db 781 aacaaagacaaagatataatgaagaagatcatccaagatatgaccctcaatgaaagacc 840

QY 826 AACAAAGACCAAGTATATGTAAAGAGATCTCCAGATATGTACCTCTGTGAAACAGC 885

Db 841 gtgcagcgacatgtgacatgtcaacctcaccttcgagcagctctgtagctgagaa 900

QY 886 GTGCAGCGGACATTGGACATGCACTCACTTCGAGCAGCTTCGTAGCTGATGAA 945

Db 901 agcttaccgggaagaagtgtgagcagaagacatgaaaaaacaataaagcgatgcaaa 960

QY 946 AGCTTACCGGGAAGAAAGTGGAGCAGAAACATTTGAAAAAACAATAAAGGCATGCAAA 1005

Db 961 cccagtgccagatccctgaagctgtcagttgtggtggaataaataatgacagcaagac 1020

QY 1006 CCCAGTGACGATCTGAAGCTCTCAGTTGTGGCAATTAATAAATGGGACCAAGAC 1065

Db 1021 accttgaagggccctaatagcagcactaaagcactcaagaagctaccacttcccaaaact 1080

QY 1066 ACCTTGAAGGGCCCTAATGACAGCACTAAAGACATCAAGAGAGTACACTTCCCAAACT 1125

Db 1081 gtcaactcagagcttaagaagaacacatcaggttcccttcacaccttcacaatgtacaatg 1140

QY 1126 GTCACTCAGAGTCTTAAAGAACCATCAGGTCTTCAACAGCTCACAATGTACAATTTG 1185

Db 1141 tatcagaagttatctttaaagaatgtaggtaaccaggttcaaatgtaaaataagctgc 1200

QY 1186 TATCAGAAGTTATTTTAAAGAAATGATAGTAACCAAGTCCAACTCACTAAATAATAGCTGC 1245

Db 1201 ttataa 1206

QY 1246 TTATAA 1251





PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
DR WPI: 96-402320/40.  
DR P-PDB: R99948.  
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
PS for bone resorption control, esp. treatment of osteoporosis  
PS Claim 78, Page 148, 183pp, Japanese.  
CC This sequence encodes a mutated version of the full length  
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
CC sequence encodes OCIF-Cbt in which gln371 is substituted with Leu  
CC and amino acids 373-380 of the mature protein have been deleted. These  
CC amino acid changes have been caused by the introduction of a restriction  
CC site. The OCIF of the invention has a molecular weight by SDS-PAGE of  
CC 60 kD under reducing conditions and 120 kD under non-reducing  
CC conditions. The protein is adsorbed onto cation-exchangers or heparin  
CC and its activity is lowered after 10 mins at 70 deg.C or 30 mins at 56  
CC deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful in the  
CC control of bone resorption and therefore in the treatment and  
CC prevention of disorders of bone resorption, e.g. osteoporosis.  
Sequence 1182 BP; 376 A; 280 C; 266 G; 260 T;  
Query Match 76.8%; Score 1173; DB 27; Length 1182;  
Best Local Similarity 99.7%; Pred. No. 0.00e+00;  
Matches 1176; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

DB 721 aaagggcaacacagcttcacaaagaacagacttccagctgctggaagtatggaacatcaa 780  
QY 766 AAACGGCAACACAGCTCACAAAGAACACACTTCCAGCTGCTGAAGATTATGAAACATCAA 825  
DB 781 aacaaagacacagatatagtcaagaagatcatccagatatattgaccctgtgaacagc 840  
QY 826 AACAAAGCAAGATATAGTCAAGATCATCAAGATATGACCTCTGTGAAACAGC 885  
DB 841 gtgacggcagcatgtgacacatgctaacctcacccttcgagcagcttcgtatgtgaa 900  
QY 886 GTGACGCGGCATTGACATGATCACTCACTTCCTGACGAGCTTGACTGATGAA 945  
DB 901 agcttaccgggaagaagatgtggagcggaagacttgaaaaaaataaagactgtgaaa 960  
QY 946 AGCTTACCGGGAAAGAAAGTGGAGAGAACATTTAAAAAACAATAAGGCTGCAAA 1005  
DB 961 cccagtgaccagatccctgaagctgtcagttgtggcgaataaataatggcagcagac 1020  
QY 1006 CCCAGTGCAGATCCCTGAAGCTCTCAGTTTGCGGATATAAAATGGCGACCAAGAC 1065  
DB 1021 acccttgaaaggcctaatagacgcacactaaagcactcaagaagcgtacccttccaaact 1080  
QY 1066 ACCTTGAAGGCGCTAATGACAGCAGCTAAAGCACTCAAGAGCTACCTTCCAAAAC 1125  
DB 1081 gtcaactcagagcttcaagaagaccatcaggttcccttcacagcttcacaatgtacaattg 1140  
QY 1126 GTCACTCGAGCTTAAAGAAACATCAGGTTCCCTTCACAGCTTCACAAATGTACAAATTG 1185  
DB 1141 taccgaagtattcttagaatatagtaaccatgac 1179  
QY 1186 TATCAGAAGTATTTTTGAAGATATAGTATACCAAGTC 1224

RESULT 9  
ID T33173 standard; DNA; 1056 BP.  
AC T33173;  
DE 22-Apr-1997 (first entry)  
DE Mutated OCIF, OCIF-CC, coding sequence.  
KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
OS osteoporosis; ss.  
OS Synthetic.  
FH Key Location/Qualifiers  
FT sig\_peptide 1..63  
FT /\*tag- a 64..1053  
FT mat\_peptide  
FT /\*tag- b  
FT /product- OCIF-CC  
PN W09626217-A1.  
PF 29-Aug-1996.  
PF 20-FEB-1996; J00374.  
PR 20-FEB-1995; JP-054977.  
PR 21-JUL-1995; JP-207508.  
PA (SNOW ) SNOW BRAND MILK PROD CO LTD.  
PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
DR WPI: 96-402320/40.  
DR P-PDB: R99943.  
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
PS for bone resorption control, esp. treatment of osteoporosis  
PS Claim 63, Page 144-145, 183pp, Japanese.  
CC This sequence encodes a mutated version of the full length  
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
CC sequence encodes OCIF-CC in which amino acids 331-380 of the mature  
CC protein have been deleted. The OCIF of the invention has a molecular  
CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under  
CC non-reducing conditions. The protein is adsorbed onto cation-exchangers  
CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30  
CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful  
CC in the control of bone resorption and therefore in the treatment and  
CC prevention of disorders of bone resorption, e.g. osteoporosis.  
SQ Sequence 1056 BP; 332 A; 252 C; 247 G; 225 T;  
Query Match 68.9%; Score 1052; DB 27; Length 1056;







Dh 901 agcttaccggggaagaagtggagcagaagacattgaaataaataagcc 953  
 |||||||  
 Qy 946 AGCTTACCGGGAAGAAGTGGAGCAGAGACATTTGAAAAAACAATAAAGGC 998

RESULT 12  
 ID T33167 standard: DNA: 1080 BP.  
 AC T33167;  
 DT 22-APR-1997 (first entry)  
 DT Mutated OCIF, OCIF-PCR2, coding sequence.  
 KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
 KW osteoporosis; ss.  
 FH Synthetic.  
 FS Key Location/Qualifiers  
 FT sig\_peptide 1..63  
 FT /\*tag- a  
 FT mat\_peptide 64..1077  
 FT /\*tag- b  
 FT /product- OCIF-PCR2  
 PD W09626217-A1.  
 PD 29-AUG-1996.  
 PF 20-FEB-1996; J00374.  
 PR 20-FEB-1995; JP-054977.  
 PR 21-JUL-1995; JP-207508.  
 PA (SNOW ) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 PI WPI: 96-402320/40.  
 PR P-PSDB: R99937.  
 DT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 FT for bone resorption control, esp. treatment of osteoporosis

PS Claim 45: Page 138-139; 183pp; Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-PCR2 in which amino acids 43-84 of the mature  
 CC protein have been deleted. The OCIF of the invention has a molecular  
 CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under  
 CC non-reducing conditions. The protein is adsorbed onto cation-exchangers  
 CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30  
 CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful  
 CC in the control of bone resorption and therefore in the treatment and  
 CC prevention of disorders of bone resorption, e.g. osteoporosis.  
 CC Sequence 1080 BP; 357 A; 243 C; 236 G; 244 T;

Query Match 58.3%; Score 890; DB 27; Length 1080;  
 Best Local Similarity 99.9%; Pred. No. 0.00e+00;  
 atches 891; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Dh 189 cgaatgcagaagaaggcgctacattgagatagatctcgttgaaacataagagctccc 248  
 |||||||  
 Qy 360 CGAATGCAAGGAGGCGCTACTGATGATGATGATGATGATGATGATGATGATGATG 419  
 249 tccctgatttgagagcggcgcaagcgggaaccccaagcgaataaagtttggaaaagatg 308  
 |||||||  
 Qy 420 TCCCTGATTGGAGTGGTGCAGAGCTGGAAAGCCAGAGGAAATACAGTTTGAAGAAAGATG 479  
 309 tcccaatgagcttcctcaaatgagacgctcatctaaagcaccctgtagaataacacacaaa 368  
 |||||||  
 Qy 480 TCCCAATGGGTTCTTCTCAATGACACGTCATCTAAGACCCCTGTAGAAACACACAAA 539  
 369 ttgcagctcttctgtctcctcgtctactcaagaagaagaaatgcaacacacgacacatatg 428  
 |||||||  
 Qy 540 TTGCGAGTGTCTTGGTCTCTCTCTACTAGAGAAAGAAATGCAACACGACCAACATATG 599  
 429 ttccggaacacatgataactcaaaaatgtaagtagttagtccctgtgtgagaagc 488  
 |||||||  
 Qy 600 TTCCGGAACACATGATGATCACTCAAAAAGTGAATGATGATGATGATGATGATGATGATG 659  
 489 attcttcaggtctgtctcctcaaaaagtttaagccttaactggtctgtgtgtgtaga 548  
 |||||||  
 Qy 660 ATTCTTACAGTTTGGCTGCTCTACAAAGTTTACGCTACTGCTTGTAGTCTTGTGTAGA 719

Dh 549 caattgctctggcaccacaagttaaacgcgagagagtgtagagagataaaacgacacacag 608  
 |||||||  
 Qy 720 CAATTGGCTTGGCACCACAAAGTAAACGAGAGAGTGTAGAGAGGATTAAGGCAACACAG 779  
 609 ctccacaagaacagacttccagctcgtgaagttatggaacatcaaaaacaaagacacaaga 668  
 |||||||  
 Qy 780 CTCACAGAAGACAGACTTCCAGCTGCTGAAGTTATGGAACATCAAAAACAAAGACACAGA 839  
 669 tatatgaagaagaatccatccaatattgacctctgtgaaaacagcgtgcagcgacat 728  
 |||||||  
 Qy 840 TATAGTCAAGAGATGATCAATCCAAAGATATGACCTCTGTGAAAACGCGTGCAGCGACAT 899  
 729 tggacatgttaacctccctcgcagcagcttcgtagcttgtatgtaaaagcttaccgggaaa 788  
 |||||||  
 Qy 900 TGGACATGCTTAACCTCACTTCAGAGCTTCGAGCTTGATGTAAGAGCTTACCGGGAAA 959  
 789 gaaagtggagcagaagaacattgtaaaaaacataaagcagatgcacacagtgacacagat 848  
 |||||||  
 Qy 960 GAAAGTGGAGCAGACAGACATGAAAAACATAAAGCATGCAAAACCCAGTACAGAT 1019  
 849 cctgaagctgtcaggttctgtgcgataaaaaaatgctgacccaagacacacctgaaggcct 908  
 |||||||  
 Qy 1020 CCTGAGCTGCTCAGTTTGTGGCAATAAAAATGCGACCAAGACACTTGAAGGCGCT 1079  
 909 aatgcagcactaaagcactcaagaagcgttaccacttcccaaaactgtcagagatc 968  
 |||||||  
 Qy 1080 AATCCAGCGACTAAAGCAGCTCAAGAGCTACCTTCCAAAACCTCTCAGACTCT 1139  
 969 aaaaagacacatcagctgtctctcctcagccttacaatgtacaaatgtatcacaagttatc 1028  
 |||||||  
 Qy 1140 AAAAAGACCATCAGTTCCTCTCAGCTTCAATGTACAAATGTGATGATGATGATGATGATG 1199  
 1029 ttggaatgtaagtaaccagctccaatcagtaaaaaataagctgtctataa 1080  
 |||||||  
 Qy 1200 TTGAAATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1251

RESULT 13  
 ID T33171 standard: DNA: 984 BP.  
 AC T33171;  
 DT 22-APR-1997 (first entry)  
 DT Mutated OCIF, OCIF-DDD2, coding sequence.  
 KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
 KW osteoporosis; ss.  
 FH Synthetic.  
 FS Key Location/Qualifiers  
 FT sig\_peptide 1..63  
 FT /\*tag- a  
 FT mat\_peptide 64..981  
 FT /\*tag- b  
 FT /product- OCIF-DDD2  
 PD W09626217-A1.  
 PD 29-AUG-1996.  
 PF 20-FEB-1996; J00374.  
 PR 20-FEB-1995; JP-054977.  
 PR 21-JUL-1995; JP-207508.  
 PA (SNOW ) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 PI WPI: 96-402320/40.  
 PR P-PSDB: R99941.  
 DT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 FT for bone resorption control, esp. treatment of osteoporosis  
 PS Claim 57: Page 142-143; 183pp; Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-DDD2 in which amino acids 253-326 of the mature  
 CC protein have been deleted. The OCIF of the invention has a molecular  
 CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under  
 CC non-reducing conditions. The protein is adsorbed onto cation-exchangers  
 CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30  
 CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful  
 CC in the control of bone resorption and therefore in the treatment and



Db 601 ctgtgtgaggaagcattcttcaggttctgtctctacaaagttacgcctactgctt 660  
 |||||||  
 QY 646 CTGTGTGAGGAGCGCTTTCTTCAGTGTTCCTCTTCAAAAGTTTACGCTTACTGCGCTT 705  
 Db 661 agtctctgtgtagacatttgccttgcaccaaagtaaacgcagagagtgtagagagata 720  
 |||||||  
 QY 706 AGTGTCTTGTAGACAAATTTGGCTGCGACCAAAAGTAACGGCAGAGTGTAGAGAGATA 765  
 Db 721 aaagcgcaacacagctcccaagaacagacttccagctgtcgtgaagtattggaacataca 780  
 |||||||  
 QY 766 AACCGCAGACAGCTCTCAAGAACAGACTTCCAGCTGTGAAGTATGGAACATCA 825  
 Db 781 aacaagaccagatatagtcagaagatccaa 816  
 |||||||  
 QY 826 AACAAAGACCAAGATATAGTCAAGAGATCATCCAA 861  
  
 "ULT 15  
 T33168 standard: DNA: 1080 BP.  
 T33168:  
 22-APR-1997 (first entry)  
 DE Mutated OCIF, OCIF-DCR3, coding sequence.  
 KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
 OS osteoporosis; ss.  
 OS Synthetic.  
 FH Key Location/Qualifiers  
 FT sig\_peptide 1..63  
 FT /\*tag- a  
 FT mat\_peptide 64..1077  
 FT /\*tag- b  
 PN /product- OCIF-DCR3  
 PN MO9626217-A1.  
 PD 29-AUG-1996.  
 PF 20-FEB-1996; JP-054977.  
 PR 20-FEB-1995; JP-054977.  
 PR 21-JUL-1995; JP-207508.  
 PA (SNOW ) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 PI WPI: 96-402320/40.  
 DR P-PSDB: R99938.  
 PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 PT for bone resorption control, esp. treatment of osteoporosis  
 PS Claim 48: Page 139-140; 183pp. Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-DCR3 in which amino acids 85-122 of the mature  
 CC protein have been deleted. The OCIF of the invention has a molecular  
 CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under  
 CC non-reducing conditions. The protein is adsorbed onto cation-exchangers  
 CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30  
 CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful  
 CC in the control of bone resorption and therefore in the treatment and  
 CC prevention of disorders of bone resorption, e.g. osteoporosis.  
 SQ Sequence 1080 BP; 351 A; 259 C; 233 G; 237 T;

Query Match 50.1%; Score 765; DB 27; Length 1080;  
 Best Local Similarity 100.0%; Pred. No. 0.00e+00;  
 Matches 765; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 496 gaagcattcttcaagtttgcgtgttcctacaaagttacgcctactgcttagtgccttg 555  
 |||||||  
 QY 655 GAGCATTCTTCAAGTTTGGCTGTTCCTACAAAGTTTACGCTTACTGCTTATGTTCTTG 714  
 Db 556 gtaagacaatttgccttgcaccaaagtaaacgcagagagttaagagagataaaacgca 615  
 |||||||  
 QY 715 GTACACAAATTTGCTGCGACCAAGTAACGCAGAGAGTGTAGAGAGATAAAGCGCAA 774  
 Db 616 cacagctcacaaagacagacttccagctgtcgaagttatgtaaacatcaaaacaaagac 675  
 |||||||  
 QY 775 CACAGCTCACAGAACAGACTTCCAGCTCTGAAAGTATGAAACATCAAAACAAAGAC 834  
 Db 676 caagataagtcagaagatccatccagaatattgacctctgtgtaaaacagcgcgcgcg 735  
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 QY 835 CAAGATATGTCAGAAAGATCATCCAAAGATATTGACCTCTGTGAACACAGCTGCACGCG 894  
 Db 736 cacatlgacatgttaaccctcaccttcagacagcttcgttagctgtatgtaagaaagctac 795  
 |||||||  
 QY 895 CACATTGACATGCTACCTCACCTTGAGACAGCTTGTGATGTAAGTAAGCTTACCG 954  
 Db 796 ggaagaagaagtggagcagaagacattgaaaaaacaataaaggcatgcaaaacccagtgac 855  
 |||||||  
 QY 955 GGAAGAAGAAAGTGGAGCGAGAACATGGAAGAAAAACATAAAGCATGCAAAACCCAGTGAC 1014  
 Db 856 cagatcctgaaagctgctcagcttctgttgcgataaaaaatgycgaccaagacacttgaag 915  
 |||||||  
 QY 1015 CAGATCCTGAAGCTGCTCAATTTGTGGCAATTAATAAATGGCCACCAAGCACCTTGAG 1074  
 Db 916 gacctaatgacgagactaaagacactcaaaagcgtaccacttcccaaaactgtcactcag 975  
 |||||||  
 QY 1075 GGCTATATGCACGACATTAAGCACTCAAAAGCATTTCCTCCAAAACCTGTCACTCAG 1134  
 Db 976 agcttaagaagacatcaggttctcctacagcttcaaatgtacaaatgtatcagaag 1035  
 |||||||  
 QY 1135 AGCTTAAGAAGACCAATCAGGTTCCTTCACAGCTTCACATGTACAAATGTATCAGAG 1194  
 Db 1036 ttattttaagaatgtaggttaaccaggttccaatcagataaata 1080  
 |||||||  
 QY 1195 TTATTTTGAAGATGATGATTAACCAAGTCCAAATCACTAATAAATA 1239

Search completed: Thu Aug 21 10:07:25 1997  
 Job time : 360 secs.